



Distribution of Fungi Diseases in Hot Climate Conditions

1. Togaev Akhror Turakulovich
2. Abdullaev Farrukh Abdullaevich,
3. Norkobulov Bunyod Sodikmuratovich

Received 29th Jan 2022,

Accepted 30th Jan 2022,

Online 2nd Feb 2022

Annotation: The article presents information from various authors on parasitic fungi of humans, their classification, features of climate change, features of their distribution in hot climates. The purpose of this article is to analyze, summarize and draw conclusions from the information provided by the authors.

Keywords: fungus, disease, parasite, climate.

^{1,2,3} Termez branch of the Tashkent Medical Academy.

Relevance. Currently, about 400 species of fungi are included in the list of potential pathogens of mycoses. The increase in the incidence is currently due to unfavorable socio-economic and environmental conditions of life, the growth of immunodeficiency states, the lack of medical care, and the deterioration of epidemiological control. (Z.M. Abidova, 2009)

Fungal infections - damage to the skin, nails, mucous membranes, internal organs caused by pathogenic fungi. Fungal microorganisms are widespread in the environment, some of them are constantly present in the human body (for example, candida are part of the normal microflora of the oral cavity, intestines).

There are infections that are caused by pathogenic fungi that live only in certain areas (endemic mycoses).

Fungi multiply intensively in warm and humid conditions, which leads to their frequent localization on the skin of the toes, feet, in skin folds, and nails. Some types of fungi (for example, candida) are constantly present in the human body without causing harm to health.

Under favorable conditions, these fungi begin to multiply actively, which leads to the development of a fungal infection. Factors contributing to the development of fungal diseases include: - warm and humid environmental conditions; - non-compliance with the rules of personal hygiene; - excessive sweating; - tight clothing, shoes that do not allow air to pass through; - taking antibiotics - they can destroy not only pathogenic, but also beneficial bacteria that form normal microflora, this is fraught with activation of the growth and reproduction of fungi; - a decrease in the efficiency of the immune system: the immune system resists pathogens various diseases, its work may be disrupted when taking certain drugs (for example, glucocorticoids), with endocrine diseases (for example, with diabetes mellitus), lesions of the immune system itself (as with HIV).

The most common forms of fungal infection are local lesions of the skin, mucous membranes, nails. Types of fungal diseases: Microscopic pathogenic fungi in medical practice have a common name - mycosis (Greek mycosis). Today, more than 100 types of parasitic and pathogenic mycoses are classified, we will single out the main infections that affect adults and children. (Yu.S. Butova et al., 2013)

Mycoses are diseases caused by eukaryotic microorganisms belonging to the kingdom of fungi. Mycoses can also include lung lesions caused by pneumocystis, which were previously classified as protozoa, but now their belonging to fungi has been proven. Traditionally, conditions caused by prokaryotic bacteria - actinomycetes and nocardia, morphologically similar to micromycetes, are considered as fungal diseases, but these pathologies are not true mycoses.

Depending on the depth of the lesion, mycoses are divided into superficial (skin, hair, nails are affected), when dermatomycetes exist in a layer of dead keratinized tissue and deep, which can be divided into three groups according to clinical manifestations.

1) Subcutaneous (the skin and subcutaneous tissues are affected, sometimes spreading to the lymphatic system), the pathogens of which are widespread and found in the soil, on trees and plants and enter the body at the sites of skin damage: sporotrichosis (it is also possible to damage the lungs by inhalation), chromomycosis, mycetoma.

2) Systemic respiratory fungal infections (endemic, contagious) caused by primary pathogenic micromycetes and affecting practically healthy individuals: blastomycosis (North American blastomycosis), histoplasmosis (common in America, Africa), coccidioidomycosis (California fever), paracoccidioidomycosis (South American blastomycosis), found in endemic regions. Initially, the infection, which enters the respiratory tract by inhalation of a soil aerosol contaminated with fungi, affects the lungs, with possible subsequent dissemination through the lymphatic and blood vessels. Each type of fungus tends to affect a specific organ system.

3) Infections caused by opportunistic micromycetes (aspergillosis, candidiasis, cryptococcosis, mucorosis, etc.), or opportunistic mycoses, which usually develop in people with reduced resistance.

For mycoses of the lungs in immunocompetent persons, asymptomatic, non-severe or chronic course is most often characteristic. The frequency of occurrence of micromycetes (carriage/colonization) in patients with various pneumopathies (including those with bronchial asthma, emphysema, bronchitis, pneumonia) is 20-80% of cases, and in 70% of cases these are yeast-like fungi *Candida* and molds *Aspergillus*, *Penicillus*, *Mucor*, which, when the exacerbation of the underlying disease is eliminated in most patients, cease to be determined. Patients with chronic obstructive pulmonary disease, especially against the background of enteral administration of corticosteroid drugs, have cases of invasive aspergillosis, 7-10% of patients with bronchial asthma and 15% of patients with cystic fibrosis have allergic bronchopulmonary aspergillosis.

Exogenous allergic alveolitis is also known, provoked by intense and prolonged inhalation of organic dust containing fungal antigens, as a result of which the following diseases develop: farmer's lung (causes working with rotten hay), bagassosis (with sugar cane), mushroom pickers' lung

Dermatomycosis is a common fungal disease that affects the skin, nails, and hair. The source of infection can be a person or an animal. They manifest themselves with various symptoms, we will only indicate the most common diseases in our geographical area:

- rubromycosis - a disease caused by the anthropophilic fungus *Trichophyton rubrum*. Differs in a variety of clinical manifestations and localization of foci on any part of the body, can affect smooth skin, hair follicles and nails;

- mycosis of the foot (epidermophytosis), which also affects the interdigital folds. Very similar to candidal lesion, and sometimes there is a polymycotic infection;
- favus - a rare form accompanied by severe baldness of the head. Can be transmitted through combs, underwear, and shaving and haircutting tools;
- microsporia - trichomycosis, the causative agent of which is the microsporum fungus. On smooth skin it appears as red spots of a clear shape with a peripheral roller, and on the scalp - with small scaly foci;
- trichophytosis (synonymous with ringworm). Outwardly, it is manifested by pink-red focal lesions of the skin on any part of the body;
- epidermophytosis of skin folds. Accompanied by itching, redness and peeling.
- The defeat of the mucous membranes of the genital organs (often the vaginal mucosa in women) is accompanied by the formation of a white cheesy plaque, secretions. At the same time, burning, itching is felt in the vagina.
- Dermatophytosis is caused by molds that use the keratin (protein) of the skin, hair, and nails for life. The infection can be transmitted from people, animals, through contact with infected socks, shoes, when visiting pools, baths. It is manifested by hair loss in limited areas, peeling, redness of the skin, itching. With the defeat of the nail plates, the nails thicken, their shape and color change, they can become brittle, crumble.
- Pityriasis versicolor. This fungus causes the appearance of white spots, which become especially visible after sunburn. Other symptoms are usually absent.

There are mycoses that are predominantly common in certain areas (endemic mycoses). One of them is coccidioidomycosis, the highest incidence of which is noted in the southwestern United States and northern Mexico. The infection can be transmitted by inhalation of spores of pathogenic fungi, by contact of the skin with the soil. The disease is characterized by damage to the lungs, skin.

In immunocompromised individuals, fungi that do not cause any symptoms in a healthy person can lead to systemic mycoses. Such infections are called opportunistic.

The causative agents of opportunistic systemic mycoses can be candida, aspergillus and other fungi. The clinical picture consists of damage to the skin, lungs with possible further spread to internal organs: the brain, kidneys, liver, gastrointestinal tract, heart valves.

These forms often develop against the background of severe damage to the immune system and a significantly reduced body resistance, so the prognosis is unfavorable in many cases.

Microsporia is a fungal disease (mycosis). More commonly known as ringworm. As a result of this fungal infection, the hair, skin and nail plates are affected. Children get infected more often than adults. The name of microsporia was given by fungi of the genus *Microsporum*, which provoke pathological changes. There are an average of 60-70 cases per 100,000 people. Of the entire group of dermatophytosis (skin infectious diseases), it is this pathology that has the greatest contagiousness (contagiousness). As a rule, a person becomes infected through contact with infected animals or objects on which their hair is present. Transfer of microsporia in the active phase from person to person is possible, although it is extremely rare - only 2% of cases of their total number. (A.T. Kuldibaeva, 2021)

Trichophytosis is a highly contagious fungal disease of the skin, hair, and nails caused by fungi of the genus *Trichophyton*.

There are anthropophilic fungi that parasitize humans and cause superficial and chronic trichophytosis, and zoophilic fungi that parasitize animals and cause superficial, infiltrative and suppurative forms, which successively pass one into another and are considered as different stages of the same process.

With anthropophilic trichophytosis, infection occurs through contact with a sick person, as well as his things (hats, combs, scissors, bedding, towels, underwear, clippers, etc.) It is possible to transmit the pathogen if sanitary and hygienic requirements are not observed in hairdressing salons, kindergartens, boarding schools, schools, gyms. Zoonotic trichophytosis is more common in rural areas. The main source of infection with this mycosis are animals: cattle, small wild, domestic and laboratory animals. Infection occurs through direct contact with sick animals. For the occurrence of trichophytosis, the general condition of the body matters. It develops more often in children and adults suffering from various somatic diseases. (A.I. Rubleva, 2021)

At-risk groups:

- Intense sweating.
- Persons with a weakened immune system (for example, patients taking glucocorticoid drugs)
- Suffering from diabetes.
- Working in damp, warm conditions.
- Those who walk barefoot in public places (gyms, swimming pools).
- Wearing clothes, socks, shoes with poor ventilation.
- Neglecting the rules of personal hygiene, using other people's towels, shoes, bed linen.
- Past a course of antibiotic therapy.
- Located in areas endemic in incidence of a certain type of fungal infection.

References

1. Sh.I. Ibragimov Epidemiological situation on sexually transmitted infections and contagious skin diseases in the Republic of Uzbekistan DERMATOVENEROLOGY AND AESTHETIC MEDICINE №1-2009 pp 5-7
2. V.M. Leshchenko Fungal infections of the skin. Modern antimycotics in dermatology. - Moscow. 2006.
3. Котова, В. В., & Федорова, М. И. (2011). Формы проявления вертициллезного вилта люцерны. *Вестник защиты растений*, (2), 35-39.
4. Шарпалова, Н. А., Николаева, З. В., & Крюкова, А. В. (2019). Зависимость фитосанитарной обстановки от погодных условий на черной смородине в условиях Псковской области. In *Традиции и инновации в развитии АПК* (pp. 176-183).
5. Тоджиева, Н. И., Худоярова, Д. Р., & Базарова, З. З. (2018). Совершенствование методов лечения гиперпластических процессов эндометрия в перименопаузе. *Профессионал года, 2018*, 81-84.
6. Негмаджанов, Б. Б., Худоярова, Д. Р., & Рахимова, Г. Э. (2009). Эффективность двухэтапного лечения маточных кровотечений пубертатного периода на фоне эндемического зоба. *Врач-аспирант*, 33(6), 467-471.